frequency coordination, and cost analysis of the complete relocation procedure;

- (3) The emerging technology service licensee builds the new microwave system and tests it for comparability with the existing 2 GHz system;
- (4) The 2 GHz microwave licensee is not required to relocate until the comparable alternative facilities are available to it for a reasonable time to make adjustments and ensure a seamless handoff; and
- (5) If within one year after the transition to new facilities the 2 GHz microwave licensee demonstrates that they are not comparable to the former facilities, the emerging technology service provider must remedy the defects or pay to relocate the microwave licensee back to its former 2 GHz frequencies.
- (c) (Reserved.)
- (d) Domestic Public Fixed Radio operations that are relocated to other fixed microwave bands will be subject to the applicable rules for those bands.
- III. Title 47 of the Code of Federal Regulations, Part 22, is amended to read as follows:
- 1. The authority citation continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, unless otherwise noted. and 307, unless otherwise noted.

- 2. Subpart B of Part 22 is amended by adding § 22.50 to read as follows:
- § 22.50 Transition of the 2.11-2.13 and 2.16-2.18 GHz bands from Public Mobile Service to emerging technologies.
- (a) Licensees proposing to implement services using emerging technologies may negotiate with Public Mobile Service licensees in this band for the purpose of agreeing to terms under which the existing licensees would relocate their operations to other fixed microwave bands or other media, or alternatively, to accept a sharing arrangement with the emerging technology licensee that may result in an otherwise impermissible level of interference to the existing licensee's operations.
- (b) Public Mobile Service licensees will maintain primary status in these bands until [Date: end of transition period to be determined in the Second Report and Order]. After [Date] Public Mobile Service licensees will maintain primary status in these bands unless and until an emerging technology service licensee requests mandatory relocation of the fixed microwave licensee's operations in these bands. The Commission will amend the operating license of the fixed microwave operator to secondary status if the following requirements are met:

- (1) The service licensee using an emerging technology guarantees payment of all relocation costs, including all engineering, equipment, site and FCC fees, as well as any reasonable, additional costs that the relocated fixed microwave licensee might incur as a result of operation in another fixed microwave band or migration to another medium;
- (2) The emerging technology service licensee completes all activities necessary for implementing the new microwave facilities, including identifying and obtaining, on the incumbents' behalf, new microwave frequencies, engineering, frequency coordination, and cost analysis of the complete relocation procedure;
- (3) The emerging technology service licensee builds the new microwave system and tests it for comparability with the existing 2 GHz system;
- (4) The 2 GHz microwave licensee is not required to relocate until the comparable alternative facilities are available to it for a reasonable time to make adjustments and ensure a seamless handoff; and
- (5) If within one year after the transition to new facilities the 2 GHz microwave licensee demonstrates that they are not comparable to the former facilities, the emerging technology service provider must remedy the defects or pay to relocate the microwave licensee back to its former 2 GHz frequencies.
- (c) (Reserved.)
- (d) Public Mobile Service operations that are relocated to other fixed microwave bands will be subject to the applicable rules for those bands.
- IV. Title 47 of the Code of Federal Regulations, Part 94, is amended to read as follows:
- 1. The authority citation continues to read as follows:

AUTHORITY: Secs. 4, 303, 48 Stat., as amended, 1066, 1082; 47 U.S.C. 154, 303, unless otherwise noted.

- 2. Part 94, Subpart B is amended by adding § 94.59 to read as follows:
- § 94.59 Transition of the 1.85-1.99, 2.13-2.15, and 2.18-2.20 GHz bands from Private Operational-Fixed Microwave Service to emerging technologies.
- (a) Licensees proposing to implement services using emerging technologies may negotiate with Private Operational-Fixed Microwave Service licensees in these bands for the purpose of agreeing to terms under which the existing licensees would relocate their operations to other fixed microwave bands or other media, or alternatively, to accept a sharing arrangement with the emerging technology licensee that may result in an otherwise

impermissible level of interference to the existing licensee's operations.

- (b) Private Operational-Fixed Microwave Service licensees will maintain primary status in these bands until [Date: end of transition period to be determined in the Second Report and Order]. After [Date] Private Operational-Fixed Microwave Service licensees will maintain primary status in these bands unless and until an emerging technology service licensee requests mandatory relocation of the fixed microwave licensee's operations in these bands; however, public safety licensees will be exempt from any mandatory relocation. The Commission will amend the operating license of the fixed microwave licensee to secondary status if the following requirements are met:
 - (1) The service licensee using an emerging technology guarantees payment of all relocation costs, including all engineering, equipment, site and FCC fees, as well as any reasonable, additional costs that the relocated fixed microwave licensee might incur as a result of operation in another fixed microwave band or migration to another medium; (2) The emerging technology service licensee completes all activities necessary for implementing the new microwave facilities, including identifying and obtaining, on the incumbents' behalf, new microwave frequencies, engineering, frequency coordination, and cost analysis of the complete
 - (3) The emerging technology service licensee builds the new microwave system and tests it for comparability with the existing 2 GHz system;
 - (4) The 2 GHz microwave licensee is not required to relocate until the comparable alternative facilities are available to it for a reasonable time to make adjustments and ensure a seamless handoff; and
 - (5) If within one year after the transition to new facilities the 2 GHz microwave licensee demonstrates that they are not comparable to the former facilities, the emerging technology service provider must remedy the defects or pay to relocate the microwave licensee back to its former 2 GHz frequencies.
 - (c) (Reserved.)

relocation procedure;

(d) Private Operational-Fixed Microwave Service operations that are relocated to other fixed microwave bands will be subject to the applicable rules for those bands.

Appendix B: Commenting Parties

Parties Filing Comments in Response to the <u>Notice</u> in ET Docket No. 92-9:

- 1. Advanced MobileComm, Inc.
- 2. Alascom, Inc., Telephone Utilities of Eastern Oregon, Inc. and Telephone Utilities of Washington, Inc.
- 3. Alcatel Network Systems, Inc.
- 4. ALLTEL Companies
- 5. American Gas Association
- 6. American Personal Communications
- 7. American Petroleum Institute
- 8. American Public Power Association
- 9. American Telephone and Telegraph Company
- 10. Ameritech
- 11. AMSC Subsidiary Corporation
- 12. Apple Computer, Inc.
- 13. Arizona Public Service Company
- 14. Associated Builders and Contractors
- 15. Associated PCN Company
- 16. Association for Maximum Service Television, Inc.
- 17. Association of American Railroads
- 18. Baltimore Gas and Electric Company
- 19. Basin Electric Power Cooperative
- 20. BellSouth Corporation
- 21. Bluegrass Cellular, Inc.
- 22. Brazos Electric Power Cooperative, Inc.
- 23. California Microwave, Inc.
- 24. Capital Cities/ABC, Inc.
- 25. CBS Inc.
- 26. Cellular Telecommunications Industry Association
- 27. Cellwave, Inc.
- 28. Centel Corporation
- 29. Centerior Energy Corporation
- 30. Central and South West
- 31. Central Maine Power Company
- 32. Central Power and Light Company
- 33. Century Telephone Enterprises, Inc.
- 34. Citizens Utilities Company of California
- 35. Coastal Corporation, The
- 36. Communications Satellite Corporation
- 37. COMSEARCH
- 38. Consolidated Edison Company of New York, Inc.
- 39. Corn Belt Power Cooperative
- 40. Cox Enterprises, Inc.
- 41. Cylink Corporation
- 42. Edison Electric Institute
- 43. EDS Corporation
- 44. El Paso Natural Gas Company
- 45. Enron Interstate Pipelines
- 46. Ericsson Corporation, The
- 47. Fleet Call, Inc.
- 48. GTE Service Corporation
- 49. Harris Corporation Farinon Division

- 50. Hewlett-Packard Company
- 51. Hughes Network Systems, Inc.
- 52. IEEE 802 Local Area Network Standards Committee
- 53. Impulse Telecommunications Corporation
- 54. Interactive Technologies, Inc.
- 55. International Mobile Machines
- 56. Interstate Natural Gas Association of America
- 57. JSM Tele-Page, Inc.
- 58. KAMO Electric Cooperative, Inc.
- 59. Knight, Bill
- 60. Large Public Power Council
- 61. Legislative Affairs Committee Region-20 Public Safety Review Committee
- 62. McCaw Cellular Communications, Inc.
- 63. MCI Telecommunications Corporation
- 64. Mega-Tel Cellular Limited Partnership
- 65. Metropolitan Water District of Southern California
- 66. Millicom, Inc.
- 67. Miscellco Communications, Inc.
- 68. Montana Power Company, The
- 69. Motorola Inc.
- 70. National Association of Broadcasters, Radio-Television News Directors Association, Cable-Satellite Public Affairs Network, Association for Maximum Service Television, Inc., and Turner Broadcasting System, Inc.
- 71. National Broadcasting Company, Inc.
- 72. National Rural Electric Cooperative Association
- 73. National Spectrum Managers Association, Inc.
- 74. National Telecommunications and Information Administration
- 75. National Telephone Cooperative Association
- 76. NYNEX Mobile Communications Company
- 77. North American Telecommunications Association
- 78. Northern Telecom Inc.
- 79. OCUM Corporation
- 80. Omnipoint Corporation, Oracle Data Publishing, Inc., and McCaw Cellular Communications, Inc.
- 81. Organization for the Protection and Advancement of Small Telephone Companies, The
- 82. PacifiCorp
- 83. Pacific Telesis Group
- 84. Personal Communications Network Services of New York, Inc.
- 85. Public Power Council
- 86. Public Safety Microwave Committee
- 87. Public Service Company of Oklahoma
- 88. Public Service Telephone Company
- 89. Public Utilities Commission of the State of Colorado
- 90. Questar Service Corporation
- 91. Rivkin, Steven R.
- 92. Rochester Telephone Corporation
- 93. Rocky Mountain Telecommunications Association
- 94. ROLM
- 95. Rose Communications, Inc.
- 96. Rypinski, Chandos A.
- 97. R&D Cellular, Inc.
- 98. San Diego, the City of, and San Diego Gas & Electric

- 99. Scripps Howard Broadcasting Company
- 100. SCS Mobilecom, Inc.
- 101. Sho-Me Power Electric Cooperative
- 102. Society of Broadcast Engineers, Incorporated
- 103. Sooner Cellular, Inc.
- 104. Southwestern Bell Corporation
- 105. Southwestern Electric Power Company
- 106. Spatial Communications, Inc.
- 107. SpectraLink Corporation
- 108. SR Telecom, Inc.
- 109. Sterling Cellular Limited Partnership
- 110. Sunflower Electric Power Corporation
- 111. Sunshine Cellular
- 112. Telecommunications Industry Association Fixed Point-to-Point Communications Section
- 113. Telecommunications Industry Association Mobile Communications Division
- 114. Telephone and Data Systems Inc.
- 115. Tel/Logic Inc.
- 116. Telesciences, Inc.
- 117. Telocator
- 118. Texas Gas Transmission Corporation
- 119. Texas Wired Music, Inc. and Taft Broadcasting Company
- 120. Time Warner Telecommunications Inc.
- 121. TRX Transportation Telephone Company
- 122. United States Department of Energy
- 123. United States Telephone Association
- 124. United Telephone Companies
- 125. U S WEST, Inc.
- 126. Utilities Telecommunications Council
- 127. Valero Transmission Company
- 128. Vanguard Cellular Systems, Inc.
- 129. Virginia, Maryland and Delaware Association of Electric Cooperatives
- 130. Western Resources, Inc.
- 131. Westinghouse Broadcasting Company, Inc.
- 132. Wireless Cable Association International, Inc.
- 133. Wireless Information Networks Forum

Parties Filing Reply Comments in Response to the <u>Notice</u> in ET Docket No. 92-9:

- 1. Alcatel Network Systems, Inc.
- 2. AMSC Subsidiary Corporation
- 3. American Personal Communications
- 4. American Petroleum Institute
- 5. Apple Computer, Inc.
- 6. Association of American Railroads
- 7. AT&T
- 8. Cablevision Systems Corporation
- 9. Capital Cities/ABC, Inc.
- 10. Centel Corporation
- 11. Central Nebraska Public Power and Irrigation District
- 12. COMSAT

- 13. Corporate Technology Partners
- 14. Edison Electric Institute
- 15. GE American Communications, Inc.
- 16. Leslie Taylor Associates
- 17. McCaw Cellular Communications, Inc.
- 18. Motorola, Inc.
- 19. National Association of Broadcasters, Radio-Television News Directors Association, Cable-Satellite Public Affairs Network, Association for Maximum Service Television, Inc., Turner Broadcasting System, Inc.
- 20. National Telecommunications and Information Administration
- 21. Pacific Telesis Group
- 22. Personal Communications Network Services of New York, Inc.
- 23. Primestar Partners L.P.
- 24. Public Safety Microwave Committee
- 25. Satellite Broadcasting and Communications Association
- 26. SCS Mobilecom, Inc.
- 27. Telephone and Data Systems, Inc
- 28. Telesciences, Inc.
- 29. Telocator
- 30. Utilities Telecommunications Council

Appendix C: Proposed Transition Plans

UTC's proposed transition plan:

"To the extent there is concern over the feasibility of voluntary negotiations, [the Commission should] provide for an involuntary relocation program, to commence 10 years from now, based on the MMDS/ITFS relocation plan adopted in GEN Doc. 90-54:

- (1) A new user may request involuntary modification of an existing user's license to specify operation on different frequencies;
- (2) The new user is responsible for all relocation costs, and must set up an escrow account or buy a performance bond to guarantee relocation costs;
- (3) The proposed system must provide equal or better reliability than the existing system;
- (4) Existing user has an opportunity to oppose the relocation proposal; and
- (5) If the new facilities prove to be unsatisfactory in practice, the existing user must be relocated back to its original facilities at the new user's expense."⁵²

Telocator's proposed transition plan:

- (1) No microwave users should be required to cease 2 GHz operations until suitable alternative facilities are implemented and tested;
- (2) A transition plan framework should be utilized rather than current users' primary status expiring on a fixed date;
- (3) Extensions of current users' co-primary status should be provided in cases in which there is no initial interest in emerging technologies;
- (4) Government spectrum at 1710-1850 MHz should be considered as a relocation destination for current 2 GHz licensees;
- (5) There should be equal treatment of all existing 2 GHz fixed microwave, with the exception of police, fire and emergency medical operations, which would be exempt from any relocation;

^{52 &}lt;u>See</u> UTC's letter, "Recommended FCC Action Plan for Accommodating New Technologies," dated March 24, 1992.

- (6) Spectrum sharing should be used initially and wherever possible;
- (7) 2 GHz microwave and emerging technology licensees should be free to negotiate mutually acceptable agreements for spectrum accommodation or relocation;
- (8) Tax certificates should be used to encourage accommodation of emerging technologies; and
- (9) Narrow-band microwave facilities in the 2110-2200 MHz band and new non-licensed applications in the emerging technologies bands should be given special consideration.⁵³

Senate Amendment:

- (1) The Commission shall not redesignate, from primary to secondary, any use of the frequencies between 1.85 and 2.20 GHz by a qualified fixed microwave entity;
- (2) The Commission may permit frequencies between 1.85 and 2.20 GHz that are allocated on a primary basis to fixed microwave service to be used on a shared basis, except that any entity that shares the frequencies between 1.85 and 2.20 GHz with a qualified fixed microwave entity shall bear the burden of eliminating any harmful interference to an existing fixed microwave system;
- (3) Any newly licensed fixed microwave system, or modification of an existing such system, operating on frequencies between 1.85 and 2.20 GHz shall bear the burden of eliminating interference to already licensed emerging technology systems;
- (4) Any license for a new fixed microwave facility, or modification of or addition to an existing such system, operating on frequencies between 1.85 and 2.20 GHz shall be granted on a primary basis, unless no other qualified private fixed microwave entity is operating on those frequencies on a primary basis;
- (5) The Commission shall not deny any application for a license for a new fixed microwave system, or modification of or addition to an existing such system, seeking to operate on frequencies between 1.85 and 2.20 GHz, for the purpose of preserving the availability of frequencies for emerging telecommunications technologies or other uses;
- (6) The Commission shall not impede or restrict the ability of fixed microwave entities operating on frequencies between 1.85 and 2.20 GHz, or of licensees or proponents of emerging technologies, to enter into voluntary negotiations for the

⁵³ See Telocator's comments at 3-4.

purpose of optimizing efficient use of the spectrum, including, but not limited to migration of facilities to other frequencies or media;

- (7) At a date no earlier than 8 years after adoption of final rules in this proceeding, proposals for relocation of <u>either</u> fixed microwave or emerging technologies operations may be submitted to the Commission, subject to conditions intended to ensure that there is virtually no adverse impact on the service provided by relocated operation or the entity owning that operation; and
- (8) If a proposed relocation is approved by the Commission, the Commission shall retain jurisdiction to resolve all remaining disputes to ensure that the conditions in (7), above, are met.⁵⁴

⁵⁴ <u>See</u> 138 Cong. Rec. S10346 (July 27, 1992).

SEPARATE STATEMENT OF COMMISSIONER ANDREW C. BARRETT

RE: Emerging Technologies - 2 GHz Band, First Report and Order and Third Notice of Proposed Rulemaking [ET Docket No. 92-9]

In January 1992, the Commission issued a Notice of Proposed Rulemaking in this docket. That notice proposed to reallocate 220 MHz of the 1.85-2.20 GHz band from existing fixed microwave services. At that time the Commission already had received requests for new services totalling more than 370 MHz. Thus, as of that Notice, the Commission was already 150 MHz short of the requested spectrum. Since that time, this docket has received much attention from the Congress, the fixed microwave industry, and potential Emerging Technology proponents. At this point, everyone is aware that this band of spectrum has become increasingly valuable. I have seen studies which indicate the potential market for certain emerging technology services, such as PCS, could evolve to a \$50 billion industry, serving as many as 150 million people worldwide and 60 million people in the U.S.² Given the potential size of this and other emerging technology services, I continue to believe that the FCC must move forward to reallocate spectrum, and develop appropriate rules for the transition to new services. Further, in light of the increasing growth and demand for wireless services all over the world, the Commission must continue to heed the mandate for technological change in this industry, and adapt its rules accordingly. Thus, I support the action we are taking today. believe it is consistent with the Commission's multifaceted approach to resolving issues in the emerging technology docket.

I will focus on several matters going forward in this docket. First, I will continue to review studies which show the potential economic impact of delays for licensing emerging services. I am concerned that the Commission does not repeat its experience in initiating cellular service, which has been reported to have cost the economy \$86 billion. I believe the potential impact of delay in licensing new services should be thoroughly modeled and examined by all sides in this docket. Comparative studies and analysis could yield a record in this

¹ See, Separate Statement of Commissioner Andrew C. Barrett, ET Docket 92-9, January 16, 1992.

² See, Opening Address by Commissioner Andrew C. Barrett at the FCBA/Telocator 1992 PCS Seminar, September 9, 1992.

docket which will give the Commission a more informed basis for making decisions. I am particularly interested in comparisons that show the relative economic impact of increased levels of delay in authorizing emerging technology services.³

Second, in reviewing comments on the appropriate transition period, I will look for specific cost and technical factors associated with the transition periods advocated by the parties. Where parties support varying transition periods due to market size factors or other considerations, I will look for thorough justifications in terms of costs and the potential impact of delay.

Third, I will be interested in reviewing comments regarding the use of a negotiated rulemaking process in this docket. Certain issues, such as comparable facility guidelines for the relocation of fixed users, general interference guidelines for sharing arrangements, and tax certificate usage, could be reviewed in this context. This process also allows interested parties to engage in direct dialogue regarding the remaining issues.

Fourth, I am interested in reviewing further comments on the specific merits of using the tax certificate as an incentive to relocate fixed users. Some commenters already have provided useful insights on the potential merits of the tax certificate in this docket. From a policy perspective, if the use of the tax certificate will promote an efficient alternative for emerging technology providers to negotiate with existing users and gain access to clear spectrum, then I support its use. In this docket, we reallocate spectrum for emerging technology uses which may have significant economic growth potential. In order to promote an efficient transition to these new services, I believe the Commission should provide all incentives possible. I will be

I already have reviewed studies provided by Telocator which show the potential impact of delay in licensing PCS services. See, Telocator PCS Section: "PCS Demand Forecast", May 1, 1992. I would be interested in reviewing further comparative economic analysis which show the economic impact of increased delays in any transition period relative to the costs [direct and indirect] involved with relocation of fixed users.

⁴ Some of the commenters who indicate that there are potential benefits from using the tax certificate are: Alcatel, American Personal Communications, Baltimore Gas and Electric, CTIA, Centerior Energy Corporation, COMSEARCH, Edison Electric Institute, GTE Services, NYNEX Mobile, OPASTCO, Rochester Telephone, Rocky Mountain Telephone Association, Southern Natural Gas, Telocator, Southwestern Bell, US WEST, Vanguard Cellular, and Williams Natural Gas.

interested in reviewing further comments on the specific circumstances under which the tax certificate could be used, and the context in which it would be applied. Further, I would like to see the negotiated rulemaking process develop guidelines and specific justifications for the use of this incentive with respect to fixed microwave users who volunteer to be relocated.

Finally, I believe it should be clear that in any sharing arrangement between new emerging technology providers and existing fixed users, that no harmful interference will be permitted to effect the existing fixed users. This item should clarify this point.

Separate Statement of Commissioner Ervin S. Duggan

In the Matter of Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies

Despite my early misgivings, I am satisfied that we are moving forward with a balanced approach in this proceeding. Indeed, the decisions and proposals we adopt today will provide the spectrum necessary to hasten the launch of new and promising technologies, while ensuring maximum sensitivity to the needs of incumbent users who have abided by our rules.

It is no secret that this has been a contentious proceeding, involving intense lobbying by the parties most at risk--- incumbent microwave licensees, on the one hand, and new technology providers such as Personal Communications Service (PCS) proponents, on the other. Both sides in this debate have strong policy arguments, both have strong allies on Capitol Hill.

From the beginning of this proceeding last January, I have signalled my strong desire to treat incumbent users fairly. That concern stems not only from a normal sense of fairness, but also from a longstanding principle embodied in the Fifth Amendment: "nor shall private property be taken for public use, without just compensation." I do not want to suggest that incumbent licensees hold permanent or private property rights, but I am convinced that they do have a right to reasonable compensation, ample transition periods, and fully adequate substitute spectrum for their move.

I am satisfied that, in this item, the Commission adopts adequate procedural safeguards to protect the interests of these incumbent licensees. In particular, incumbent licensees who are forced to move will be provided with guaranteed payment of their relocation costs; new technology service providers, moreover, must build the relocated facilities and test them for comparability to the incumbent's existing facilities. If the relocated facilities aren't comparable, the new technology provider must remedy any defects or pay to relocate the incumbent back to its former location. Reasonable extensions of existing microwave service will also be entitled to these benefits of co-primary status.

In addition, we seek comment on several possible plans, ranging from three to 10 years, concerning the appropriate

length of time to allow for voluntary negotiations between new technology providers and existing users. We also seek comment on an additional proposal to mandate a one-year voluntary negotiation period for all incumbent licensees, which will ensure fair treatment for microwave licensees located in smaller communities or on outlying spectrum bands.

As we move forward with these measures, I believe we should give credit to the efforts of Senator Hollings and others to ensure that public safety users and other current users of 2 Gigahertz spectrum have been given a fair hearing. In our eagerness to encourage and promote exciting new technologies, the Commission must not overlook the needs of equally important existing communications service providers and the many consumers who have come to rely on these services. Microwave licensees, after all, have good reason to fear the Commission's efforts to relocate them in favor of new, unproven technologies; they remember with some bitterness the reallocation of the 12 Gigahertz band many years ago to make room for Direct Broadcast Satellite (DBS) service--- a service which has yet to reach consumers.

My ongoing concern for current licensees, however, does not mean that I lack interest or enthusiasm for new technologies. To the contrary, I want to do all we can to encourage innovative new communications services.

A few weeks ago I visited Apple Computer's headquarters in Cupertino, California. I was awed by the new products and services that I saw there: services and products that are ready to be born. Unlike the slow transition to DBS, I'm convinced that PCS and data-PCS services can be brought quickly to the marketplace. The potential benefits of such services are enormous. They include new types of consumer products and services, new competition to existing providers of telephony, and new opportunities, domestically and globally, for U.S. industry.

Before we can move forward with the important decisions involving these new services, however, we must put to rest the remaining relocation issues still pending in this proceeding. I hope that we can do so quickly.

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